

REMARKS

Claims 1-4 and 8-15 are pending in this application. Claim 1 is independent.

Applicants thank the Examiner for the courtesies extended to their representative during the March 15, 2005, personal interview.

The present invention provides a metal sheet with an anticorrosive coating formed from an anticorrosive paint containing metallic zinc powder and at least one kind of metal salt rust inhibitor, where the metal salt is a salt of a metal that is more base than zinc.

Corrosion prevention by zinc has long been known, and metal salt rust inhibitors are also known. Specification at page 4, lines 4-6.

However, the present inventors are the first to find that a marked anticorrosive effect is produced by the **combination** of zinc powder with a metal salt rust inhibitor, where the metal salt is a salt of the metal which is more base than zinc. Specification at page 4, lines 6-10.

When a solution is formed from a combination of zinc powder with a metal salt rust inhibitor whose metal is less base than zinc, ions the metal of the rust inhibitor deposit in place of zinc. Thus, zinc is ionized in place of the metal of the rust inhibitor. This promotes corrosion of the metal sheet.

As discussed in the specification at page 4, lines 10-12, the mechanism of the anticorrosive effect of the present invention is not well known. However, according to Applicants' present understanding, when pH is too high or too low, the metal salt rust inhibitor of the present invention dissolves to make the pH more neutral whereby zinc salts having a protective effect against corrosion are generated.

Claims 1-4, 8, 10-12 and 11-15 are rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 4,352,899 ("Tada").

Tada discloses a corrosion resistant coating composition on a metal substrate. Tada's composition includes 30-95 wt% zinc powder and 0.1 to 5 wt% of a magnesium compound. Tada at abstract. The particles of the magnesium compound preferably pass through a 300 mesh sieve. Tada at column 5, lines 13-15.

However, Tada's disclosure of magnesium compound particles passing through a 300 mesh sieve is not a disclosure of the independent Claim 1 limitation that "the metal salt rust inhibitor is a fine powder having an average particle diameter no larger than 1 μ m". Because Tada fails to disclose all of the limitations of independent Claim 1, the rejection under 35 U.S.C. § 102(b) over Tada should be withdrawn.

Claims 1-4, 8, 10-12 and 11-15, as well as Claims 9 and 13, are rejected under 35 U.S.C. § 103(a) over Tada.

Tada requires an organic phosphorus compound. The organic phosphorus compound is effective for corrosion resistance together with an epoxy resin, as described at Tada column 4, lines 4-26. In contrast, in the present invention, such an organic phosphorous compound is not used. Corrosion resistance is improved by controlling the average particle diameter of the metal salt rust inhibitor, without the help of an organic phosphorous compound. Therefore, it is improper to consider Tada, which requires an organic compound, as the ground of obviousness of the present invention.

Any *prima facie* case of obviousness based on the cited prior art is rebutted by the significant improvement in corrosion resistance that is achieved by the present invention by the **synergistic combination** of zinc powder and metal salt rust inhibitor having an average particle diameter no larger than 1 μ m. See attached Declaration Under 37 C.F.R. § 1.132.

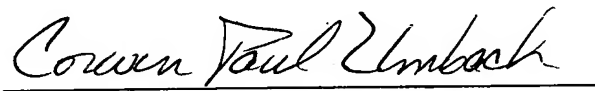
Because the cited prior art fails to suggest the significant improvement in corrosion resistance that is achieved by the present invention with a combination of zinc powder and the metal salt rust inhibitor having an average particle diameter not larger than 1.0 μm , any *prima facie* case for the obviousness of independent Claim 1 is rebutted. Because the cited prior art fails to have rendered obvious the claimed invention, the prior art rejections should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Applicants respectfully request favorable consideration and prompt allowance of the application.

Should the Examiner believe that anything further is necessary in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon


Corwin P. Umbach, Ph.D.
Registration No. 40,211

Attachment:

Declaration Under 37 C.F.R. § 1.132

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/03)
NFO:CPU/bu